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Project Effectiveness, Administrative Load, Cost-Efficiency and Project Size: Exploring the Inter-Relationships

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by Marielle Rowan

Evaluation Unit, IDRC

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EXECUTIVE SUMMARY - FINDINGS AND ISSUES FOR DISCUSSION

Seventy-six effective projects were identified by program staff and stratified into small (less than $150,000CAD), medium ($150,000-$250,000CAD) and large projects (greater than $250,000). Fifteen projects (five from each size) were analyzed in-depth. Neither group of projects should be taken as representative of all IDRC projects: but rather as examples of particularly "effective" projects from the point of view of program staff.

• Cost-efficiency is a major element of accountability for SMC. For program staff, cost-efficiency is an indicator of good management but does not guarantee an effective project. For administrative staff, improved cost-efficiency is a goal which their structure and processes are put in place to realize.

• Program staff cited five categories of criteria for effective projects: Important and leading edge issues; Capacity building; Workable technology that was integrated into the local economy; Research information that made major impacts on policy; and Effects on basic needs. There was not pattern relating project size to any of these criteria. Program staff also mentioned having a vision for the project, "bright light" leaders, government and institutional support, and a commitment to utilization as important features of effective projects.

• Many factors determine a project's budget including the recipient's financial and technical absorptive capacity, the country's economic context and regulations, the project scope, program mix and opportunity costs, and the Centre's internal reward system.

• In the sample of 76 projects, large projects had a disproportionably higher CAP (which indicates Centre administrative costs) than small projects. The average CAP was 15.1% of the total grant for large projects and only 11.5% for small projects. The average CAP of large projects was almost 8 times greater than the average CAP of small projects but the average grant size was only 6 times greater. However, the sample of 15 does suggest that some caution is prudent when inferring that CAP always increases with budget size because CAP and RAP ratios do fluctuate in all three project sizes.

• Both small and large projects required the same percentage of formal extensions. However because there are almost three small projects for every large project, the sample of 76 showed the administrative load for extensions is 6 times greater for small projects, although extensions seem to be relatively inexpensive to administer, there is approximately one extension per $220,659 delivered for small projects and one extension per $1,305,117 delivered for large projects.

• In all budget sizes for the 15 projects, both the total amount as a percentage of the grant and the proportion allocated to CAP of capital equipment purchases, personnel expenses, training costs, travel expenses, and publication costs vary so that few patterns are discernible. Research expenses do seem to increase with budget size, but this trend needs to be taken cautiously as research expenses for medium projects are quite varied. Training was rarely allocated to CAP. However, now that FAD no longer carries the training mandate of the Centre, this may change and could be tracked.

• The use of supplements underlies the fact that a budget is created to meet the needs of a project at a certain point of time and that sometimes the context and needs change. Supplements are costly and in the sample of 15, they were required for two large projects. The example of a medium sized project which required two supplements such that it became "large" illustrates the relativity of project size. Was this project's effectiveness linked to the fact that project staff responded to a need to increase the budget? Would the project have not been recommended as an effective project if only the original amount had been spent?

• One major form of monitoring, visits, was explored and data on the 15 projects seems to challenge the perception that small projects are not monitored as well as large ones. Small projects received a visit every 12.2 months of the anticipated length, and large projects every 10 months. This means that smaller projects would have a larger administrative expense. The expense must be balanced against impact which raised questions such as: Do effective projects receive more visits than less effective projects? Do monitoring visits make a qualitative contribution and how and at what stages can monitoring best contribute to projects? More research should be completed before monitoring visits are limited as an attempt to save money.

• Medium and large projects had more multi recipient and multi donor participation than small projects. Often complex donor/recipient relations mean proportionally higher administrative costs, especially when much of the budget is allotted to CAP or contains a variety of CAP expenses. Yet other times, IDRC can administer a project for the other donors involved and not only recover costs but perhaps derive a small surplus. Multi-donor projects raise interesting questions about how much credit IDRC can take for an effective and successful project. Large projects may be "glitzy" but for how much of the glitz is IDRC responsible? Does administering other donors' contributions mean IDRC becomes responsible, and therefore can take credit, for a larger proportion of the project's success? The Centre may want to consider developing a policy for extra large projects which outlines the role and breadth of IDRC's contribution.

• It is difficult to consider a project, and therefore its budget size, individually. The study found that often small projects were a phase or part of a series or network and large projects were made up of a group of small projects. If all the so called "small" projects were administered as supplements to the single "large" project unit, would this save administrative costs? Most likely these units would become unmanageably huge and make it difficult to administer, when there is change in staff.

• The major conclusion of this study is that there is no evidence that effective projects with large or small budgets typically incur a higher administrative cost. The projects in our sample had CAP and RAP ratios and expense types carefully designed to complement specific needs and contexts. Similarly, a recent World Bank study also found that project size was not a significant variable in project performance.

The memo continues with an appeal to program staff to "strive for an [project budget] average that is significantly higher this year". In fact, the jump is to be one from last year's average of $164,000 CAD to a recommended $250,000 CAD.

In the above quotations, SMC appears to take for granted the relationship between project dollar value and administrative load. They seem to accept that smaller projects translate into more frequent use of administrative processes, requiring in turn, more personnel time and energy than do larger, and therefore necessarily fewer, projects. The implication seems to be that small projects are not deserving of the increased administrative attention because their impact is less than that of larger projects: less visible, less important, less attracting of attention. This logic is easy to follow. However the basis for it is as yet uncertain. During this prolonged period when strategic positioning and the use of fiscal resources are critical, it is timely to examine the base assumptions about the quality and strength of the relationships between cost-efficiency and project effectiveness and among different budget sizes, administrative load and project impact.

This evaluation will examine whether there is a project size which can best help the Centre achieve its goals of cost-efficiency and project effectiveness concurrently. For instance, are larger projects in themselves relatively cheaper to administer than smaller projects or is administrative load equally a matter of when the load occurs and who must deal with it? Do smaller project budgets create more administrative strain by requiring more of the same fiscal processes than larger budgets? Or do large projects create as much burden as small projects by amplifying the administrative complexity? Do most large projects begin as small initiatives or were they originally conceived as major investments? Do larger projects have different types of goals than smaller ones and does each realize their goals equally effectively given the design costs? This study attempts to assess whether and how budget size makes a difference to project effectiveness.

Specifically, this study will:

(i) explore briefly what the terms cost-efficiency and project effectiveness mean for staff and management as well as issues program staff consider when making decisions about project budget size.

(ii) determine if and which cost-efficiency elements, including administrative factors, are associated with budget size.

(iii) examine in-depth staff-defined successful projects which represent different budget sizes to draw lessons learned about how IDRC can best realize administrative and cost-efficiency while meeting its development goals.

Methodology

1. Methodological Framework

Program effectiveness and cost-efficiency are substantive concepts which involve both objective and subjective elements. They are objective in that certain criteria can be agreed to represent them yet subjective in ranking the relevance and importance of those criteria. Given the magnitude of both of these concepts, it was decided to establish one of them as given and in this study, project effectiveness was kept constant to understand what impact budget size has.

An important factor in the decision to keep "project effectiveness" constant was that the term not be pre-defined by the researchers but rather established on the basis of program staff's reasons for choosing specific projects as effective. All program staff as well as directors were asked to provide two or three projects that, in their opinion, had made a significant contribution to development. This provided a purposive sample of "effective projects" for which data were collected and analyzed.

2. Data Collection and Analysis

Data were collected in three stages. Initially, Centre documents, including internal memos, were reviewed to understand the context within which SMC has been discussing issues of program effectiveness and cost-efficiency. Interviews were then conducted with two members of senior management to elaborate on why and how the directive to increase the average project size came about (see Appendix A for the interview schedules). These qualitative data were transcribed and are used descriptively.

In the second stage, the purposive sample of effective projects was derived. Program staff and directors suggested 145 projects (current and completed) which had made important contribution to development in a discipline, region or country. This sample was then organized into data sets to include project data gathered from PROMIS and IDRIS. Incomplete data sets and late responses led to a final sample of 76 which was analyzed for averages, frequencies and other basic statistics. Appendix B provides the request and responses for the "Top Two" projects and a listing of the 76 projects. Of the 76, there were 29 small and medium projects each and 18 large ones. For the purpose of this study, small projects were those with a budget up to $149,999 CAD; medium projects those with budgets between $150,000 CAD and $249,999 CAD; and, large projects, those over $250,000 CAD. For closed projects, the budget size is the actual final cost, not the anticipated initial one, and for open projects, the budget size is the proposed cost. The 18 large projects consisted of one project over a million CAD, two projects between $750,000 and $1,000,000, two projects between $500,000 and $750,000 and 13 projects between $250,000 and $500,000. These numbers of large projects closely reflect the Centre-wide percentile distributions for projects approved between April 1987 and March 1992 according to information on FINMIS.

When defining populations and samples, there are limitations which define the study. In this study our sample was shaped by self-selection and the extent of participation. Not everyone answered the query for projects and some respondents did not limit themselves to only two or three. As well, the "effective projects" sample represented what IDRC staff considered effective; the sample might have been quite different if the recipient researchers, partner donors or beneficiaries had been asked. Even within IDRC, there may not be full agreement among staff on whether a particular project was effective or not. Last, the budget sizes selected mean that two of the typologies are beneath the recommended average of $250,000 CAD and one is above: this has implications for the in-depth analysis of the 15 projects. Although generalizations cannot be made, extrapolations can.

Along with the identification of projects, program staff and directors were also asked to indicate briefly the criteria they used in making their choices. These responses were analyzed qualitatively. Ninety criteria were indicated and five categories emerged as reasons for projects being chosen as effective. These will be discussed in the following analysis.

In the final data gathering stage, fifteen projects were selected from the purposive sample of 76 for in-depth analysis. This group of fifteen included five in each of the small, medium and large budget categories and were selected to be fairly representative of division, research output (in terms of capacity building, hard technology, policy information, etc) and region. Appendix C lists these fifteen projects. The in-depth analysis included interviews with the responsible program officers (see Appendix A for the interview schedule) and a review of the project files. The interviews were transcribed and the qualitative data is used descriptively. The project files were reviewed and data were gathered from PROMIS and IDRIS.

FINDINGS

TERMS AND IDRC CULTURE

Cost-efficiency and project effectiveness are words used in almost all work sites, particularly during periods of heightened awareness to fiscal responsibility. But what do they mean for management and staff at IDRC and what influence do they have on decisions about budget size?

1. Cost Efficiency

For SMC, cost-efficiency is a major element of accountability. As a crown corporation that receives money from the Canadian government to fund research projects, the Centre is concerned with cost-efficiency as an important concept for ascertaining its effectiveness and justifying its existence. One member of SMC's assessment is that seven of 12 questions asked about the Centre in parliament sessions pertain to cost-efficiency. SMC is compelled to make links and ratios between allocated or spent dollars and effective impact for accountability reasons. Even if all projects were successful, SMC would still have to report and be responsible to the Board of Governors and the Canadian government for the *cost* of the success.

For program staff, supplying funding in a fiscally responsible manner may contribute to a project running smoothly but certainly does not guarantee it. Several of them would argue that IDRC is more than just a fiscal resource broker, that its comparative advantage is as a broker of knowledge and research capacity. At the same time, most program staff attempt to maximize their finite resources and are aware that the 70/30 ratio of program to operational costs is moving to 80/20.

For administration and Program Service Unit (PSU) staff, cost-efficiency is an important goal that their policies and processes are set in place to achieve. In turn, administration and PSU staff's time and abilities in ensuring that the administrative processes necessary to provide products such as financial reports contribute directly to achieving overall cost-efficiency of projects.

2. Project Effectiveness

Project effectiveness implies that Centre staff are meeting the mission's substantive objectives. Two recent publications, *Meeting the Global Challenge* and *Empowerment through Knowledge*, explain these objectives and the strategies to be employed for achieving them. Both of these publications reflect SMC's current program emphases.

The written responses from program staff about projects that make a difference reflect the practical application of several goals in the mission statement. When analyzed qualitatively, five categories of criteria for citing effective projects emerged (see Table 1): **Important and Leading Edge Issues**--projects which focused on issues crucial to development at that particular time, often involving innovation and an IDRC leadership role. **Capacity building**--projects which included sustained support, information dissemination and training components that strengthened problem solving or built up institutions. **Workable technology that was integrated into the local economy**--projects that produced technologies which had benefits to the host community and whose spin-offs had received favourable attention. **Research information that made major impacts on policy**--projects that collected and disseminated vital information between policy makers, government officials, researchers and sometimes the private sector and NGOs for policy creation or modification; sometimes these policies dealt with democratic processes. **Effects on basic needs**--projects which provided quality of life improvements and had an impact on local people's daily lives.

Table 1

Distribution of Project Effectiveness Categories

Category of Criteria	Frequency of Response n=90*	Percentage
Important/Innovative Issues	22	24.4
Capacity Building	17	18.9
Workable Technology	16	17.8
Policy Impacts	15	16.7
Basic Needs Effects	9	10.0
Income Generation/Royalties	1	1.1
Criteria Insufficiently Explained	10	11.1
Total	90	100.0

* The total is greater than 76 because some people offered more than one criteria per project.

In considering a basic model of inputs--> activities--> outputs-->impacts, the categories listed above focus on outputs and impacts and most likely include intended and unintended, short and long-term impacts. Interviews with program staff revealed several essential inputs to project effectiveness including: **Vision** -the program officer has to sense that the project team has vision or pro-actively creates a vision that is attainable for the

project; **Project leaders**--leaders who are vibrant, "bright lights" with abilities to inspire the project team; **Government and institutional support**--IDRC is viewed as credible in the eyes of government and has political support from the institute's leaders; **Commitment to utilization.**

None of the output/impact categories nor inputs will be surprising or new to IDRC people. What is relevant, however, is that there is little mention or association to fiscal resources other than one person's response of royalties. This reinforces the idea that program officers do not see cost-efficiency as either an input to or impact of effective projects. Although budgets are carefully considered and can be used to show good management, cost is not seen as an "indicator" of effective projects.

SMC's new emphasis on project size is one modality of making cost-efficiency more overtly associated with project performance by ensuring that program officers give more attention to budget sums. Perhaps this needs to be balanced with modalities which make administration, finance, and PSU staff more conscious of project effectiveness.

With this brief overview which explored the interrelatedness of cost-efficiency and project effectiveness at IDRC, we can now discuss factors that influence decisions around budget size.

3. Influences on Selecting Budget Size

When program officers are determining a project's budget, contextual factors play an important role including the recipient's absorptive capacity, the country's regulations, the project scope, program linkages and mix of elements.

"Absorptive capacity" here refers to the highest dollar amount for which the recipient can adequately manage and administer financially and technically an IDRC grant. Program officers usually have an informal idea of the recipient's technical competence, and financial and technical management experience which they use to guide resource allocations. Ensuring the recipient's absorptive capacity corresponds with the budget size often implies a pared-down budget with a more-focused scope. When there is little information about a recipient's absorptive capacity, the risk is higher and budgets are kept smaller than perhaps would be typical of a similar project where the absorptive capacity is known.

In June 1992, Finance and Administration produced "*Institutional/Country Approach*", which formalized for administration staff some of the informal financial issues that program officers consider about a recipient's absorptive capacity. The document adopts a client-centred approach for its financial framework to assess "... the risk and exposure associated with that client as well as the operational efficiency of the environment in which the institution must operate"[1]. The financial administration will remain constant for the same

[1] "*Institutional/Country Approach*", June 1992, pg. 1 in Section "Executive Summary".

institution but there will be greater variance among institutions. For instance, IDRC would likely lower its control on institutions/countries for which the risks are low, the recipients are known, and for which their financial policies and processes have proven in the past to be satisfactory. The document says,

> The result of this approach will be a system where the risk to the Centre is no higher than at present but with a lower cost to achieve.[2]

Next, project scope affects budget size. Although one program officer would argue that project "size" is a function of project "scope" (rather than dollar allotments), there is some consensus that scope does tend to correlate positively with budget size. As project scope increases so do budgets, and if the budget has to decrease (because of a low absorptive capacity, for instance) then usually the scope is limited likewise. Involving more subject focuses or research sites as well as introducing more disciplines and diverse methodologies are typical mechanisms for increasing scope. Cooperative, participatory research and network projects, by definition, involve more than one stakeholder and collaboration can be costly in terms of a program officer's time, especially at the beginning of the project. New and innovative or risky approaches frequently have less grandiose, more specific focuses and therefore smaller budgets. The Centre does have a reputation of being a "seed" organization and sometimes innovation, as well as risk, require smaller financial inputs at the beginning of a critical path towards idea development.

The decision about how much money to allocate to a particular project involves looking at how it fits with the officer's program mix and total budget as well as the division's and Centre's strategy and themes. (See David Glover's 1991 paper "*An Alternative Project Mix for IDRC: A "Menu" Approach or The Entrepreneurial Program Officer*" which presents a menu of modalities for achieving Centre programming goals while still considering administrative burden and cost-efficiency.) Program staff adeptly maximize impact through creative budgeting. It is not uncommon to divide projects, which in sum are large, into phases of smaller, separate projects to reach over several fiscal years. However, one member of management perceived that greater signing authority for program staff has lead to this proliferation of smaller projects. Program mix is in the midst of being modified by the Centre's new strategy for theme-driven projects. The themes are expected to encourage interdisciplinarity and more collaboration between divisions. Multi-divisional funding may naturally increase budget sizes.

One member of SMC believes "opportunity costs" must always be considered when choosing a project and that program officers need to think of program mix as a triangle of trade-offs among program budget, opportunity costs (ie. is there something better) and vision. Of particular concern are large projects where IDRC is funding only a part of those projects with a small budget. The question is not only whether the Centre can be effective and can justify funding only a half or quarter of what a project may require but also whether it has a choice given limited resources and a global agenda.

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[2] Ibid., In Section "Overview of Institutional/Country Approach".

A country's context also influences budget size. Laws and restrictions in the formal sector for hard currency, transfer of capital assets, equipment importation can each affect rate and cost of project administration. Similarly, norms and typical practises in the informal economic sector may also affect budget allocations. Political instability and the frequent or lengthy closing of educational institutions can affect project length and delay the administering of resources. The diversity of contextual factors among countries has inspired administration's "*Institutional/Country Approach*" and has stimulated two sections in Health Sciences' project scoring sheet for grading proposals, one which gives different countries plus and minus scores and one which rates operational risk.

Last, a perception exists that budget size, although not stated, is becoming increasingly linked to a program officer's performance evaluation and rewards and that the announcement of a budget average may have caused some staff to beef up project budgets to make them closer to the average. Performance rewards are seen to be more closely associated with project budget size and visibility than impact. There are perceptions which suggest that having a single large and somewhat flashy project will overshadow a portfolio of more low-visibility projects in determining a program officer's merit. On the other hand, some staff suggest that they will resist the pressure toward the $250,000 figure in their decision-making as to what projects to fund.

With an understanding of factors that influence the decision on a project's budget size and the working context at IDRC for the terms "cost-efficiency" and "project effectiveness", it is time to shift our concentration to what can be learned from the cost characteristics in our sample of effective projects.

COST CHARACTERISTICS

To set a context for comparing cost characteristics among budget sizes, a brief discussion of administration processes is necessary. Using descriptive statistics, budget sizes will then be compared for cost characteristics including CAP/RAP, project length and project reports, payments and reminders. In the sample of 76, there are 29 small, 29 medium and 18 large projects.

1. Administration Processes

Formal administrative load costs begin to be tracked when the project is approved and funds are appropriated and committed. These funds are logged into the project tracking systems so that payment is initiated and issued either automatically or based on the submission of a technical report or financial statement. Assessments of technical reports as well as accruals and financial analyses are completed. Eventually a project is closed and there is no more associated administrative workload. Table 2 summarizes estimates made this summer by the Office of the Treasurer on these mandatory activities. (Further along in the comparisons among cost characteristics of budget sizes, there will again be reference to Table 2.)

Table 2

Summary of Costs of Administration Load for an Average Project**

Task	Time to Complete Task Once (to closest .25 hr)	Cost to Complete Task Once (to closest 5$ CAD)
P.S. Review and Appropriation	2.5	65.00
Commitment of funds	2.0	100.00
System Maintenance	0.5	25.00
Payments		
Initial Preparation by FO	1.25	45.00
Automatic	1.25	45.00
Subject to submission of technical report and financial statement	1.5	55.00
Accruals	0.75	25.00
Assessment of Technical Reports	2.0	120.00
Analyses		
Short form	1.25	55.00
Long form	4.25	175.00
Closure	1.5	45.00
Project Completion Report	11.25	680.00

** This information is based on the following assumptions: a) time and costs are aggregates based on participation rates of PSU, administration, accounting, secretarial, legal and program staff; b) hourly rates use the midpoint of salary levels and includes a percentage for benefits and other costs; c) time allocated to Supplement assumes analysis has been completed. For full cost breakdowns please consult the internal guideline, "Evaluation of the Costs of Administering an Average Project", Summer 1993.

It is important to note that no fiscal or opportunity costs for the project development stage have been identified. Program officers can spend many months developing a project and helping recipients submit an acceptable proposal. There is a tendency to have more people review a proposal informally as the budget size increases. (Procedures require more formal review points for larger projects).

2. CAP and RAP

Actual project costs are divided into centre-administered portion (CAP) and recipient-administered portion (RAP). CAP typically pays for elements such as project advisors, consultants, training, travel and equipment purchases. Only activities fully administered by the Centre are charged to CAP. Table 3 shows a breakdown of CAP and RAP by average grant amount.

Table 3

Grant Average and CAP/RAP Amounts in Large, Medium and Small Projects

Project Budget Size	Grant Average in $ CAD	CAP		RAP	
		Average in $ CAD	% of Grant Average	Average in $ CAD	% of Grant Average
Large	454,063*	68,441	15.1	331,101	72.9
Medium	189,416	24,610	13.0	145,784	77.0
Small	77,105	8,905	11.5	64,886	84.2

* This only includes 17 of the 18 projects because one large project, 84-0193, has a multi-million budget and would have skewed the average. Likewise, the CAP and RAP exclude this data set.

Table 3 shows that the average CAP for large projects is 7.7 times the average CAP for small projects. If we suppose that the cost of administering $15,000 of CAP could be about $1800 CAD then: 1) an average large project with $70,000 CAP has an administrative cost of close to $8,500; and, 2) an average small project with $9,000 CAP has an administrative cost of close to $1080. Comparing statements 1 and 2 would suggest that on average, large projects have almost 8 times the administrative stress load in terms of administering CAP than do small projects or that approximately 8 small projects can be administered with the same workload as one large project. Even though more than one small project runs concomitantly with one large project, these numbers still provoke further questions about the qualitative differences between small and large projects and their use of CAP. The in-depth analysis will further explore specific elements of CAP to see which expenditure types differ among the budget sizes.

3. Project Length

Budget size and project length, both anticipated and actual, are positively related. Table 4 shows that in all budget sizes, projects run longer than planned. On average, small projects have a duration that is two thirds longer than anticipated as compared to only one

fifth longer for large projects. However, there is a similarity in the number of formal extensions with about one third of both large and small projects requiring formal extensions. Usually, informal extensions are given for up to six months time between project completion and termination, and PSU must write a letter verifying the extension. In comparison, formal extensions have more administrative stress because they require the Program Officer to write a letter of verification which must be processed by the P.S.U. and then reviewed and approved by the Program Director, the Director General, and Finance and Administration personnel. However, in comparison to other administrative duties such as supplements, extensions probably cost less.

Table 4

Project Length and Extensions According to Budget Size

Project Budget Size	Average Project Length			Formal Extensions	
	Anticipated (mos.)	Actual (mos.)*	Deferral %**	No. of Projects	%
Large	31.5	38.6	22.5	6 of 18	33.3
Medium	22.3	31.3	40.4	8 of 29	27.5
Small	16.5	27.5	66.7	10 of 29	34.4

* For projects still open, the actual project length was kept the same as the anticipated length.

** Length of extension as a percentage of original anticipated project length.

In terms of approximate frequency, Table 4 suggests that one out three small projects would require an extension happening every year and a half; one out of four medium projects would require an extension every two years; and, one of three large projects would require an extension every three years. So, over a twelve year period, with 12 small, medium, and large projects, there would consecutively be: 1) 32 extensions for small projects; 2) 18 extensions for medium projects; and 3) 16 extensions for large projects. These figures imply that administrative stress is twice as great for small projects as for large projects when there are an equal number of small, medium and large projects. Typically there are one and a third (1.37) medium projects and almost three (2.9) small projects per one large project[3] so in fact administrative load is six times as great. Using information from FINMIS about number of projects and total allocations over a five year period and the percentage of projects that have extensions from this sample, there is one extension per $220,659 delivered for small projects and one extension per $1,305,117 for large projects--almost six times as great.

[3] These figures are derived from FINMIS/FIS information on the distribution of projects by approval limits for the period April 1, 1987 to March 31, 1992.

4. Project Reports, Payments and Reminders

Table 5, below, shows that for every budget size, there are slightly more payments than reports in all budget sizes which is not surprising since the report/payment obligation only becomes mandatory after the initial payment. In referring back to Table 2 which lists costs of an average project, assessments of technical reports ($120 CAD each) and analyses of financial reports ($55 CAD/report for short form and $177 CAD each for long form) are two of the more costly mandatory administrative activities. Table 5 shows that large budget projects have more reports and payments and this probably reflects that *some* large projects are longer than *some* small projects. Reports, payments and reminders are usually scheduled at regular intervals that are decided by the length of a project. In unusual circumstances payments and reports will be scheduled more frequently than is "typical" of a project length because of the recipient's financial absorptive capacity, the degree of uncertainty (ie. risk) felt about the research team's management capacity, or the project's country context. For instance, in countries with high inflation rates, funding will be granted in smaller, more frequent chunks.

Table 5

Average Number of Reports, Payments and Reminders for Small, Medium and Large Budgets

Project Budget Size	Average Number of Administrative Tasks		
	Reports	Payments	Reminders
Large	4	4.3	1.05
Medium	2.6	3.5	0.6
Small	2.8	3	0.5

This past section on cost characteristics has outlined administrative costs and looked at CAP/RAP distribution, project length, and reports, payments and reminders. The next section will build on findings established in the cost characteristic section for the micro analysis.

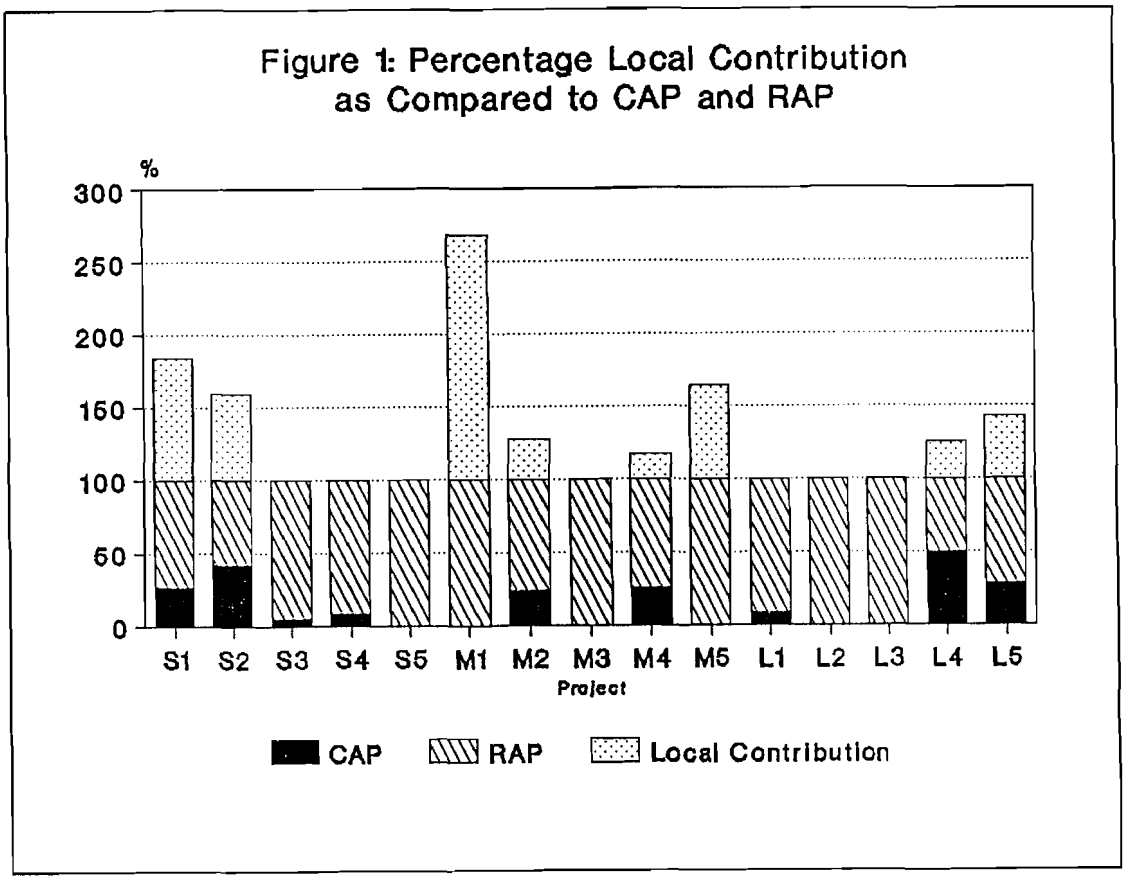
In-Depth Analysis

In this section, 15 projects are examined closely to glean the subtleties of project size. To enable readers to identify individual projects in the in-depth sample, each project is coded with a letter signifying size (S,M or L), and a number (for example S1 to S5). The coded projects are identified in Appendix C. The analysis explores the CAP/RAP breakdown and individual budget elements, project length and growth, monitoring visits, the donor/recipient

relation, and relative size. Reasons the fifteen projects were considered effective are also examined.

1. CAP/RAP

Table 3 in the previous section showed that the CAP for an average small project was 11.5% of the grant; for an average medium project, 13.0%; and for an average large project, 15.1%. However, Figure 1 shows that we must be cautious about inferring that, on average, CAP increases with budget size. CAP and RAP ratios fluctuate in all budget sizes with each having at least one project that is all RAP-administered, and each having at least one project where 25% of the budget is CAP-administered.



* Local contributions are given as percentages of the total IDRC grant. For instance, a project of $240,000 CAD with a CAP of $80,000, RAP of $160,000 and local contribution of $270,000 would have 33% CAP, 66% RAP and a 112.5% local contribution. Local contributions do not include in-kind donations.

Among the projects presented in Figure 1, medium sized projects ($150,000 to $250,000 CAD) received more local cash contributions. However, the variation of matched funding within and among categories implies little more.

Likewise, when we continue in the next sections to look at other individual elements, there seems to be little consistency in any of the three budget categories. Few patterns in project size can be ascertained for expenditures of capital equipment, personnel, research expenditures, training, travel or publications. See Appendix D for full data sets of the CAP/RAP elements for each of the fifteen projects.

a) Establishing an administrative cost for purchasing capital equipment is difficult because it depends on what, how many and when purchases are made. Asking for fewer quotations (by asking for several products at one time instead of each individually) usually eases the administrative load. Buying large quantities of one product or buying a variety of similar objects at one time makes it easier for the purchaser because there is more leverage to ask for a discount on a quotation. As well, shipping may be cheaper if all in bulk or easier clearance and custom procedures need only be completed once. Research expenses may also involve quoting, purchasing, insurance, and shipping, however data that follow concentrate solely on expenditures accredited to capital equipment.

A typical CAP-administered capital equipment purchase takes almost 4 and 1/2 hours of administrative time (including time used by program, PSU, OT, finance and legal staff) and costs about $370 CAD. The assumptions behind "typical" are that the equipment purchase was straightforward and included few delays, complications or specification variations.

Table 6

Range of Grant Percentage Spent on Equipment
for Small, Medium and Large Projects

Project Budget Size	Range Limits for Projects with Equipment Purchases	
	Lowest % of total grant	Highest % of total grant
Small (4 of 5)	4.4	28.8
Medium (3 of 5)	1.2	18.2
Large (3 of 4)*	8.0	26.5

* Only four large projects have budget breakdowns because L2 provides the total budget for all donors for which IDRC was granting $800,000 CAD.

Table 6 shows that the purchasing of capital equipment fluctuates in all three sizes. There is also insufficient evidence to draw a particular pattern between capital equipment purchases and division. One could have presumed that big projects have more "bulk" possibilities such that size becomes a function of bulk. However, the projects show otherwise. For instance, S2 spent the highest percentage of its overall grant on capital equipment. Of S2's $20,955 CAD that was used for equipment purchases, 16.2% was CAP.

The CAP-administered equipment purchases for S2 were 40 handpump components and spare parts--most likely quoted as a whole, ordered once and shipped in one package. In contrast, L4 also used more than a quarter of its budget on capital equipment but did so with almost all (97.6%) of its expenditures CAP-administered. Among other miscellaneous equipment, purchases included weather stations, flowmeters, a data logger for aircraft, voltage converters, micro-computers, printers and portable laboratories--a wide variety of supplies. Equipment expenses later required a budget supplement which also leads to the inference that purchasing for L4 was complicated and perhaps more time consuming than another or "typical" project of the same budget size.

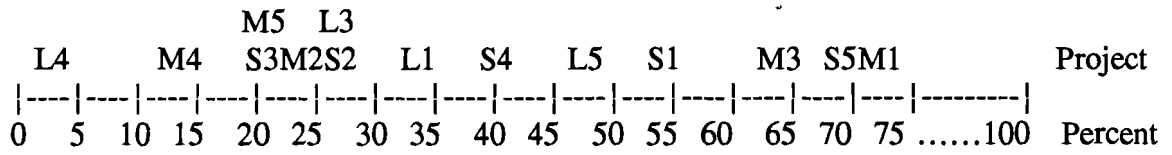
Other than four projects (one small, two medium and one large) with no capital equipment, M1 spent the least amount of its total grant on equipment. All of its capital equipment expenses were RAP and included simple purchases of a memoscriber, a tape recorder and tapes.

As well as S2 and L4, M2 and L5 were projects which included CAP-administered capital equipment. M2 probably required quotes from several suppliers since the products were not related: computer and software, a station wagon and samplers and tubes. L5 needed mistblowers, electrodyne sprayers, and flask shakers, along with spare parts, and might have been purchased from the same supplier. All said, there is little evidence of a "typical" project for any budget size in terms of equipment purchases and thus administrative load.

b) In considering personnel, the percentage of money spent on salaries and consultants was combined. In seven projects, funding was spent on either salaries or consultants and in the other seven, funding was spent on both. Figure 2 reveals little consistency in expenses for hiring personnel. Only in three cases (1 small, 2 medium) were personnel expenses charged to CAP, and in each it was for consultants. A typical consultancy involving a contract, travelling and final report requires a total of 24 administrative hours and costs about $990 CAD to administer.

Figure 2

Percentages of Total Grant Spent on Personnel*



* Again, L2 is absent from Figure 2 and those that follow which are related to CAP because no breakdown was available.

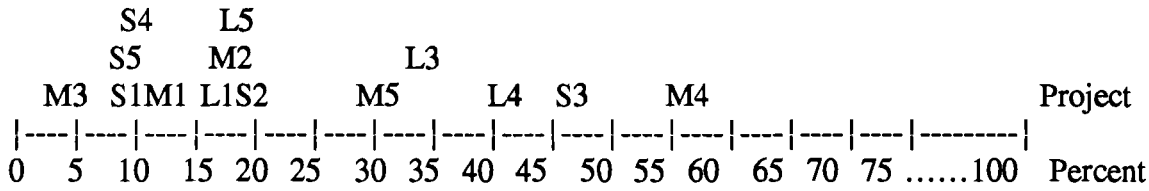
When discussing effective projects, one program officer mentioned that large projects have big-name, expensive researchers who sometimes do not spend as much effort on

projects as researchers who get paid less but may devote more time because they have fewer projects on the go. Of course, the quality of time spent is not amenable to statistical review.

c) Figure 3 shows that although there are fluctuations, projects spend between 5% and 35% of the total grant on research expenses. Small projects tend to cluster around the bottom half of this percentile range and large projects towards the top half. Medium projects have the greatest variation with the high and low modal points.

Figure 3

Percentages of Total Grant Spent on Research Expenditures



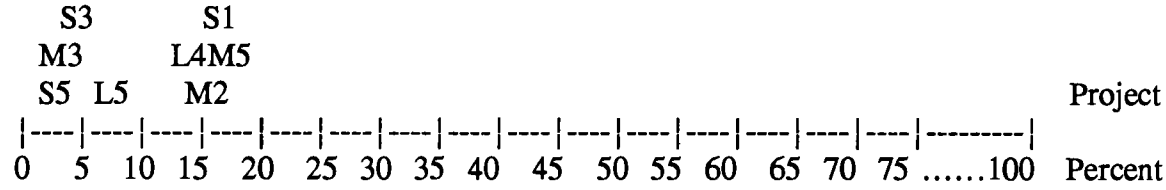
Only two projects, one small and one large, had research expenditures charged to CAP. In both cases, research expenditures were a modest portion (S2--29.4% and L4--9.3%) of the CAP total. For S2, the research expenses were water kits and supplies and reagents and for L4, radiosondes and balloons, suggesting that both would also have involved administrative costs relating to purchasing. Research expenses, as a variable which could cost in CAP terms, seem to show little pattern across size.

d) Training expenses were incurred in two small projects, three medium projects and three large projects. A large project spent the least (2% of the total grant) and a large project spent the most (22.5% of the total grant) on training. The other six projects spent between 7.5 and 14.3%. Two projects, S2 and L5, payed for training through CAP. S2 provided training for 2 people for 14 days and L5, training for 1 person for six months. The administrative load for training differs depending on whether the design of the program or its logistics (travel, accommodation and per diems) must be arranged by the Centre. Examining these fifteen projects would suggest that training is seldom a centre-administered expense for any of the budget sizes. However, this may change now that FAD no longer carries the training mandate of the Centre and responsibility centres will have to do their own.

e) Next, travel expenses were included in three small projects, three medium projects and two large ones. As shown in Figure 4, the percentage of total grant spent on travel varied from 2.7% to 18.5% with no apparent pattern related to budget size.

Figure 4

Percentages of Total Grant Spent on Travel Expenditures



The administration of one CAP international travel takes just over seven hours and costs about $225.00. Administrative processes related to travel include the completion of a travel authority, reservations, the forwarding of tickets and sometimes advances for which later expense claims may be needed. In the case of S1, S3, L4, and L5, considerable chunks of the travel expenses were CAP-administered (100%, 100%, 78.9% and 39.5% respectively). Yet in terms of whole numbers, which may provide more of an idea about administrative burden, we see that L4 and L5 needed more than twice as much CAP-administered funding as S1 and S3 ($30,000 and $15,000, and $13,215 and $5340 respectively). It is unknown whether L4 and L5 in comparison to S1 and S3 involved more than one CAP international travel; however, one could hypothesize that as the dollar figures rise either more people are travelling or more flights are being taken by the same person, and therefore more administration time is required.

f) Last, publication expenses receive a small ration of project grants. Two small, four medium and one large project spent funds on publications. The large project spent the least on publications (0.6% of the total grant) and the other six spent between 1.2% and 11.9%. L5 and S2, with $3000 CAD and $1210 CAD allocated respectively, were the only projects to credit the publication expenses to CAP. Similar to training, publication expenses for any of the budget size seem to cause administrative stress infrequently.

Exploring the CAP/RAP elements in-depth reveals many anomalies and few patterns within and among budget categories. Instead, the analysis above establishes that it is very difficult to make any assumptions about commonalities in expenditures for a specific budget size.

2. Project Length

In an earlier section on cost characteristics which used a sample of 76, project length was found to be positively related to budget size (see Table 4). Average anticipated length and average actual length increased as budget size grew which makes sense. However, extensions for small projects were longer relative to anticipated project length than extensions for large projects.

Table 7

Anticipated and Actual Project Length Ranges

Project Budget Size	Average Project Length n = 76		Project Length n = 15			
	Anticipated (mos)	Actual (mos)*	Anticipated (mos)		Actual (mos)	
			Shortest	Longest	Shortest	Longest
Small	16.5	27.5	9	36	9	47
Medium	22.3	31.3	12	36	**	**
Large	31.5	38.6	24	36	24	54

* For projects still open, the actual project length was kept the same as the anticipated length.
** Only one medium project has been completed. Both its anticipated and actual length were 30 months.

While there is a tendency to assume that small projects are short, both S3 and S4 were anticipated to take 36 months, and S4 in reality ran for 47 months. A high degree of variation exists between both actual and anticipated project lengths for each budget size. Table 7 discloses that in each budget category, there are lengthy projects. In contrast, no large projects were planned for a time period of less than two years whereas two projects in both the small and medium budget categories were anticipated to be one year or less. S1 is an interesting case because it was anticipated to be 10 months but was active for 40 months--it triggered a series of projects and had one extension and no supplements.

Table 8

Project Growth for Fifteen Projects

Project Budget Size	Number of Projects with Formal Extensions n = 15	Number of Projects with Supplements n = 15
Small	3	0
Medium	0	0
Large	2	2*

* One of these projects had two supplements.

Table 8 suggests that small and large projects are more likely to require extensions than medium projects. These findings concord with those for the sample of 76 where 34.4% of small projects had formal extensions, 27.5% of medium projects, and 33.3% of large projects. None of the fifteen projects had more than one formal extension. As indicated earlier, extensions are relatively inexpensive.

Supplements, on the other hand, take a total of about three and a quarter hours to process (which does not include the program officer's time for communicating or negotiating with the recipient about the need for a supplement) and has an administrative cost of close to $135.00 CAD. Most supplements involve budget revisions and this takes another five and a half hours with an administrative cost of almost $225.00. In the case of L4, the project began with a medium budget size of $240,600 CAD and the two supplements, the first for $61,108 and the second for $17,006, pushed it to the large budget category with a final allotment of $318,714 CAD. The supplements also increased the number of payments for L4 from three to five. L4 was expensive in terms of administrative costs because of these changes.

L3 has also required one supplement so far (it has an anticipated one more year of activity). The original grant for $354,020 CAD was supplemented to $376,730 so that an additional vehicle could be purchased. Unlike the two supplements of L4, some which were CAP and therefore entailed costs related to the use of supplemental funds, the supplement for L3 was all RAP.

Supplements and the case of L4 raise the issue of relative size. Often a budget is created to meet the need of the project *at that point in time*, yet with time (and we saw that each budget category has projects which endure for at least three years) the economic and political sphere of the country in which the project is operating, or an evaluation of the project's circumstance or ability to meet its objectives, may induce a need to change the budget. Often these contextual changes and caveats of unforseen success or failure require immediate response and budget decisions. Because of the reality that some projects need more money, there is a difficulty in delineating budget size. For instance, this study included L4 as a large project. Should it in fact be considered a medium project and if so does that really change what it has accomplished? Is L4's effectiveness linked to the fact that $318,714 was spent or to the fact that project staff responded to a need to increase the $240,600 budget? Would the project have not been recommended as an effective project if only $240,600 had been spent? These questions are not lightly answered and show the subjectivity that underlies the interrelationship between cost efficiency and project effectiveness.

3. Monitoring Visits

One SMC member mentioned that an important difference between small and large projects was that small projects were not monitored as well. Table 9 seems to challenge that perception although it must be kept in mind that these figures only represent one major form of monitoring, the visit, and do not reflect monitoring by other means such as phone calls,

faxes, e-mails and post nor visits by other donors. As well, these figures do not inform us of the length of the monitoring visits nor other indicators of the visit quality. However, they do reveal that all of the closed small projects received at least one visit. In fact, S1 which was planned for 10 months and was active for 40 months, received 3 monitoring visits. For large projects, the numbers are slightly deceiving because L4 received 6 monitoring visits--yet this occurrence does lend some credence to the belief that some large projects receive more monitoring than a smaller project of the same length. A project in each of the budget sizes received multiple visits. Monitoring visits are distributed between both "individual" projects and projects which were a phase or part of a series.

Table 9

Monitoring Visits for 15 Projects

Project Budget Size	Number of Projects Still Active	Number of Projects which Received Monitoring Visits	Total Number of Monitoring Visits Per Budget Size
Small	1	4	6
Medium	4	2	3
Large	3	3	8

Dividing the number of visits with the anticipated project length for closed projects demonstrates that small projects get a monitoring visit every 12.2 months of a project's anticipated length, medium projects every 10 months, and large projects, every 10.5 months. Since some small projects are less than a year, theoretically there will be some small projects which do not receive a monitoring--although Table 9 disputes this by showing that all four closed projects received visits. For instance, the anticipated and actual project length for S5 was nine months and it did receive one monitoring visit. Because there are typically almost 3 small projects for every one large project, in terms of whole number of visits, smaller projects would receive more and therefore have a larger administrative expense.

Issues more important than whether small projects or large projects receive more visits, and therefore cost the Centre more, must be considered. Do monitoring visits make a qualitative contribution? The sample of 15 with 6 of 7 closed projects receiving a minimum of one visit would suggest that monitoring is significant to the production of effective projects. Several program officers also indicated that monitoring positively affected the quality of a project's impact:

> Monitoring has been important to this project [M5]...Monitoring gives confidence to the recipient and shows that you care.

> Monitoring [in this case a combination of going there and researchers coming here or arranging to be at the same conference meeting or workshop] efforts have been substantial given the short life of the project [M1]--in the second of a three year project--and as a result have fostered effectiveness.

Still, more research needs to address other questions: ie. would the projects still be effective without the monitoring and therefore less administrative burden to the Centre, and how and at what stages can monitoring contribute most to project effectiveness? It is not in the scope of this study to answer these questions but they do need to be raised for discussion.

4.Recipient and Donor Relationships

RAP and CAP are terms which embody more than just dollar figures. They also provide data on the nature of the relationship between IDRC (as donor) and the recipient. When CAP or RAP is divided among several recipients or IDRC administers project funds for another donor or as one of several donors, the administrative burden changes.

Table 10

Multiple Recipient/Donor Relations for 15 Projects

Project Budget Size	Multiple Recipient (MR) Projects		No. of Projects with Multi-Division Involvement	No. of Projects with Multi-Donor Involvement
	No.	No. of MR Projects which are Cooperative		
Small	0	0	0	1
Medium	2	2	1	1
Large	2	2	1	2

Because this study is retrospective, IDRC's more current emphasis on multi-division projects through themes and interdisciplinarity is not very visible in Table 10. However the table does demonstrate that, in this sample, medium and large projects have somewhat more complex donor/recipient relations. In terms of multi-recipients, M2, M5, and L5 each had two recipients, including one from Canada, and were cooperative projects. L4 was also a cooperative project with a Canadian recipient but involved three Chilean recipients. Of these four multi-recipient projects, three had CAP: M2, L4 and L5 had 24, 50 and 28% respectively of their total grant allotted to CAP, with all of M2's and L5's CAP (except for

the contingency in L5[4]) being administered by IDRC for the developing country recipient. Administrative costs increase with multi-recipients because processes must be duplicated--although this can sometimes be less expensive than two projects with separate paperwork when the information being communicated is the same. And sometimes, multi-recipients will submit paperwork, for instance technical reports, together so that no more than the "normal" amount of time is spent on an administrative process. Even so, some processes must be completed separately for each individual recipient. Multi-recipient projects become more complicated than a single-recipient project in terms of administering when a project like L4 has several recipients with both CAP and RAP as well as supplements.

A review of the projects with multi-donors shows that for S3 IDRC was one of two donors, for M2 IDRC was one of 6 donors, for L1 one of 4, and for L2 one of 11. These figures suggest not surprisingly that the inclusion of other donors in a project varies positively with budget size. Table 11 provides further analysis of IDRC's contribution in multi-donor projects.

Table 11

IDRC's Contribution to Multi-Donor Projects

Project	IDRC Grant in $CAD	Other Donor's Grants in $CAD	% IDRC Contribution to Total Project Budget
S3	113,570	18,370	86.1
M2	219,250	**	**
L1	550,000	787,000	41.1
L2	800,000	6,527,600	10.9*

* IDRC's contribution would perhaps be higher if more than just 800,000 from this project (ie. earlier and future phases) were included in this calculation yet there could also be funding amounts that other donors provided at other times for those same phases.
** Information unavailable.

Multi-donor projects raise interesting questions about how much credit IDRC can take for an effective and successful project. Large projects may be "glitzy" but for how much of that glitz is IDRC responsible? Once again, we see how difficult it is to link inputs with impact (which impact and when) and the complexities of using results-based performance

[4] Contingencies have not existed since 1988 but previously were always CAP-administered.

measures in development projects which are typically aimed at much more than producing a "product".

Furthermore, multi-donor projects have an additional dimension: sometimes, IDRC is not just part of a multi-donor group and responsible for its own part but must also administer other donors' contributions to a project. Administering another organization's funding entails, *inter alia*, person years for accounting, financial and legal personnel; space and rental fees; and communication costs. A recent policy has outlined that IDRC will now recover 10% of overhead fees from the other donor to pay for administration costs. According to one accountant, with this policy the Centre recovers all administrative costs and frequently derives a small surplus of funds. A database is being created to help administer multiple donor activities.

Administering funds for other donors also enters into the deliberation of what IDRC can claim as its impact. Without IDRC giving the technical and financial management for the other donors to the project, then conceivably the project might not meet its objectives. Does administering other donors' contributions mean IDRC becomes responsible, and therefore can take credit, for a large portion of the project's success and if so, incrementally or exponentially?

5. Relativity of Size

For the purpose of this study, Canadian dollar increments were selected and projects were analyzed as single entities. However, Table 12 demonstrates that it may not always be fair or adequate to consider a project, and therefore its budget size, individually.

Table 12

Number of Projects Which are a Phase or Part of a Series and Belong to a Network

Project Budget Size n = 15	Phase or Series Project	Network Project
Small	3	2
Medium	0	0
Large	3	1

Here, several small projects are shown to be part of a larger grouping of projects. Conversely, it can be deduced that "large" projects are not always as large as they appear but rather are a group of several "small" projects. The idea that small projects are not as small as their face value was made very clear by project officers who frequently answered the

request for two or three effective projects with a cluster under one heading counting for "one" project (see Appendix B). To name a few, INIBAP consisted of 8 projects (5 with small budget sizes and 3 medium), the computer sensor project presented 3 projects (2 with large budget sizes and 1 small) and Applied Nutrition Research, 2 projects (1 with a medium budge and one with a large budget). Can and should the Centre fund these clusters as one giant activity? IDRC's comparative advantage of funding innovation (since riskier projects seem to receive smaller grants) and building on creative solutions (adding phases and series that build on previous success or link with lessons learned) may not make that possible. And, in reality, is there a difference in administrative burden if these clusters were administered as one project with additional growth as supplements? It is, most likely, easier to keep flexible the collective mindset of what small, medium and large projects are than have project "cluster" files that run on endlessly.

Even when projects are considered individually, regardless of whether they are a phase or part of a series or network, relativity of size is an issue. For instance, M2 had a budget of $220,000 CAD yet the program officer considers it to be a "large" project because in any other country, it would have cost $440,000 CAD. M2 was able to save money because it was in China where there were no capital costs for equipment and the researchers were paid by the research institutes. As well, the project benefitted from the Canadian cooperative institute picking up many of the hidden costs.

M2 is a prime example of how contextual factors modify budget size and why the balance sheets of several projects that are the same can appear totally different. And yet, if the problem the project is addressing is a priority, and the Centre's emphasis is on effectiveness, then the budget would have to be appropriated, regardless that it would cost less somewhere else. Once again, opportunity costs and priorities become the important considerations.

7. Reason

For SMC, the link between success, effective impact, accountability and project size is crucial. The findings section will close with a brief analysis of the last factor--why the fifteen projects were selected as successful projects, as projects which "made a difference".

Table 13

Criteria for Selecting Project as a Success

Project n = 15*	Criteria				
	Workable Technology	Policy Impact	Capacity Building	Basic Need Effects	Innovative or Important Issue
Small	S2		S1		S3, S5
Medium		M1	M3		M2, M3, M5
Large	L4		L1, L2	L5	L3, L4
Total	2	1	4	1	7

* No reason was provided for S4 or M4

Table 13 provides the distribution of criteria given for selecting the fifteen projects as effective. The criterion which was selected almost half the time was coded as "Data on Important Issues" and had these attributes: the topics were deemed crucial to development at the time they existed; the topics were innovative or on the leading edge; frequently IDRC was required to take a leadership role; and, sometimes these projects involved linking researchers with networks. This criterion reflects many program staff's image of IDRC's "comparative advantage". Worthy of note is that no criteria is representative of a particular budget size.

SUMMARY AND CONCLUSIONS

This study explored the relationships between cost-efficiency and project effectiveness and among budget size, administrative load and project impact. The assumption that budget size, with its proportional administrative load, is directly related to project effectiveness was investigated. The terms "cost-efficiency" and "project effectiveness" were discussed as they influence and are influenced by IDRC culture; 76 effective projects were analyzed for cost characteristics of CAP/RAP distribution, project length, and the number of reports, payments and reminders; and 15 projects were examined in-depth for fiscal resource allocation and administration burden as a function of project effectiveness. The resolution was that no one project size can best help the Centre achieve its goals of cost-efficiency and project effectiveness concurrently. This chapter will elaborate on this resolution by presenting a summary of findings, drawing some conclusions and giving some recommendations.

Summary of Findings

The following list provides a summary of findings from the previous chapter.

1. An Exploration of the Terms:

• Cost-efficiency is a major element of accountability for SMC. For program staff, cost-efficiency is an indicator of good management but does not guarantee an effective project. For administrative staff, improved cost-efficiency is a goal towards which they strive and for which their structure and processes are put in place to realize.

• SMC provides guidelines of intended project effects through communicating the Centre's mission, strategies for meeting the mission, and its action plans (CPF and PWB). Project staff have several criteria which include inputs and outputs/impacts which are necessary for the formula of project effectiveness. Project effectiveness is not a daily consideration for the work of administration staff.

• Decisions on budget size are influenced by a recipient's absorptive capacity, project scope, program mix, a country's context, and the Centre's internal reward system.

2. From the Sample of 76

• On average, CAP increases with budget size resulting in greater administrative stress for larger projects than smaller projects in terms of administering CAP.

• In all budget sizes, projects run longer than planned. Average anticipated length and actual length increased with budget size.

• There is a similarity between the percentage of large and small projects with formal extensions. However, because of the difference in project length and therefore the frequency of projects, small ones cause more administrative stress in terms of administering extensions.

• The number of reports, payments and reminders increases with project size because, most often, they are a function of time.

3. From the Sample of 15

• Specific budget allocations show great variance within each budget size. For instance, capital equipment purchases, personnel expenses and training allotments fluctuate in all budget sizes. Although research expenses do seem to increase with budget growth, this trend needs to be taken cautiously as research expenses for medium projects are varied.

• Training and publication expenses seem to be allocated to CAP infrequently and therefore cause the Centre limited administrative stress.

• In every budget category there are lengthy (three years or more) projects planned. However, no large projects are planned to be short (less than 24 months).

• Large projects appear to cause greater administrative burden in administering supplements than smaller projects.

• Monitoring seems to be frequent in effective projects of all budget sizes. Because of increased frequency since some small projects are shorter, there can be greater administrative stress in terms of monitoring small projects.

• The complexity of donor/recipient relations in terms of multi-recipients, multi-divisions and multi-donors seems to increase somewhat with budget size and sometimes can create substantially greater amounts of administrative stress than multiple single-donor, single-division or single-donor projects.

• Small projects are just as likely as large projects to be a phase, part of a series or a cluster of projects and therefore their impact, or lack of impact, cannot be attributed to their "solo" intervention.

• There is little indication of any one budget size category embodying certain project goals which other budget sizes do not. For all 15 projects, the criterion for project effectiveness stated most frequently was that the project provided "Data on Important Issues" which included viewing the project as innovative, requiring an IDRC leadership role and sometimes involved linking researchers with networks.

Conclusions

The summary of findings demonstrate that although in some instances either large or small projects create more administrative stress, there is no convincing evidence of one or the other budget category having, typically, a higher overall administrative cost. Instead, the analysis of the 15 projects showed the discrepancies of total allotments and CAP portions in each budget category and emphasized the individual nature of projects. Projects are being carefully designed to complement specific needs and contexts.

In response to questions raised in the introduction, this study showed that larger projects are not necessarily cheaper to administer than small projects. Medium and large projects have more complex donor/recipient relations and whenever there are multiple relations, paperwork, and sometimes administrative processes, must also be duplicated. Some administrative processes, such as the commitment of funds and project closure are necessary for all projects regardless of budget size so smaller projects which are short may increase the administrative burden. Smaller projects do *not* always undergo an equal number of administrative processes as larger projects because some processes (eg. reports, reminders, payments, analysis) are frequently a function of time and other administrative processes such as supplements, a function of decision-making. However, because there are more of them if large budgets are divided into smaller ones, the cumulative load may be higher. The issue then becomes performance, impact and relevance. A small project developed where a larger project is needed or a larger project where a smaller one would do would imply less than optimal effectiveness and cost efficiency.

This study has given some emphasis to administrative burden as a major element of cost-efficiency and looked at their relation to project effectiveness. In 1990 the World Bank also undertook a study which,

> examined the relation between project size and performance. Even though very large operations (ie. those with loan/credit amounts of $250 million [presumably $US] or more) fared less well than smaller ones, there was no consistent relation between project size and performance.[1]

Obviously, the World Bank budget categories are relatively higher to those in this study. However, their final conclusion was very much the same: that "project size *per se* was not an important explanatory factor in project performance"[2]. The fact that another major donor of development assistance also found project size not to be a significant variable of project effectiveness gives credence to the opinion that within all budget sizes there are opportunities to affect research capacity and development.

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[1] World Bank. Evaluation Results for 1991. A World Bank Operations Evaluation Study, 1993. Page 16.

[2] Ibid.

Recommendations

Based on the summary of findings and study conclusions, the major recommendation is to not use monetary quotas as a guideline for achieving effective projects. Program officers need the option to choose a budget size which can best meet a specific set of circumstances. This study has shown that there are many variables factored into the budget size decisions and that there are few premises that can be assumed to be constant for all projects or even project sizes.

As well, the author's perception based on interview responses is that the reason some project staff did not fully welcome the suggested $250,000 CAD project average has little to do with the dollar figure itself. While this study has concentrated on budget categories and administrative burden to reflect assumptions for choosing *this specific dollar amount*, an important issue and sentiment behind the $250 000 CAD figure is the subtle connection to micro-management. Building a project design which involves trade-offs between project effectiveness and cost-efficiency has been demonstrated by the lack of patterns among effective projects to be an art rather than a science. Program officers have worked hard to gain and maintain relevant expertise. A suggested budget average has affected the perception of SMC's confidence in program staff's abilities even where competence is being proven.

Second, if it is decided that suggestions from SMC about project selection must be made to keep program staff aligned with fiscal responsibility in terms of administrative burden, project length seems a more useful dimension than dollar figures to reflect administrative stress. For instance, it could be suggested that, except under exceptional circumstances, projects should not be planned for less than one year. This would save costs associated with project development as well as administration. Activities for less than a year could be funded as RSAs or if they are part of a group of projects, then added on as an extension or supplement to another project.

Third, IDRC management should consider developing a policy for extra-large projects that outlines the role and breadth of IDRC's contribution. For instance, perhaps projects with budgets over a certain dollar amount should not be funded unless IDRC is contributing a certain percentage of the total funding or is one of only a limited number of donors. A policy of this type would entail decisions about impact visibility and responsibility for success and failure. Although an earlier recommendation stated that time is a more useful dimension than dollar levels for indicating administrative stress, dollars or dollar ratios and number of donors appear to be useful indicators for deciding on overall contribution levels. The rationale behind this suggestion is that IDRC's fiscal resources are under constraints while at the same time there are pressures to show accomplishments: using proportionally extra-large chunks of fiscal resources in circumstances where it will be relatively difficult for the Centre to have much project development input or receive credit for the project impacts, even though more leveraging is being encouraged, seems imprudent. In contrast, using medium sized grants in these types of mega-donor, mega-grant projects seems more judicious.

Fourth, administration or PSU staff could assign one or two people (perhaps a summer student) to collect a list of modalities that program, PSU and administration staff use to "save costs". This study touched briefly on the fact that program officers creatively manage their budgets to save costs and these could be highlighted. The suggestions could be compiled into a short two or three page memo and exchanged through the Echogramme to create greater awareness and cohesion among these staff groups which each have a function in projects' cost-efficiency.

Fifth, the findings and interview comments suggested that monitoring played an important role in fostering project effectiveness. Monitoring, including visits, should not be limited as an attempt to save money because it appears project quality would be negatively affected.

Last, other recommendations that were suggested in the interviews include:

- RSAs are useful in terms of cost-efficiency and should be used for projects that are shorter (in lieu of the earlier recommendation, for projects less than 12 months) and cheaper (perhaps for everything less than $75,000 CAD).

- There should be less emphasis on rewards linked to budget size. As well, performance appraisals should be conducted more regularly.

- Recipient travelling should be administered more frequently by the recipient.

- More emphasis should be given to final reports to promote the utilization of research findings and to using and distributing PCRs as evidence of effective projects and lessons learned.

To close, this paper has explored several assumptions that underlie project size and its relationship with project effectiveness, cost-efficiency and administrative load. Few patterns relating cost and budget size to effectiveness have emerged to suggest that one budget size is better than others to help the Centre realize its goals. Costing information has been provided and some questions have been raised as implications of certain characteristics such as monitoring, supplements and the relativity of size. The recommendations have all attempted to respond to the need for the Centre maintain its comparative advantage as a knowledge broker willing to take selected risks while doing so in a fiscally responsible manner.

APPENDIX A - INTERVIEW SCHEDULES

INTERVIEW QUESTIONS FOR 2 MEMBERS OF SMC

1. In the SMC notes of 15 January, it was suggested that 80 percent of project activities should aim for an average budget size of $250,000 CAD. Could you outline the main objective of this policy? How will you know whether or nor it is working? By what criteria?

2. Could you describe some of the primary characteristics of an ideal project? Before funding such a project what factors would look for that would influence or indicate project success? Once a project has been completed, what factors would indicate that the project realized a successful outcome? Based on these characteristics and factors, what IDRC projects in your mind would best exemplify a successful project?

3. More generally, what in your mind would be the key measurements required for determining cost efficiency and project effectiveness? What would be required of IDRC management, program staff and administration support to monitor and bring about such efficiency and effectiveness?

4. In selecting a sample of large and small projects to examine for cost efficiency and effectiveness what criteria should we apply?

5. What could we find out that would surprise you? That would make a difference to a) you b) to program staff, administration, management?

INTERVIEW QUESTIONS FOR PROGRAM STAFF

Interviewees: 2 POs each from Social Sciences, Health, Environment and Natural Resources, and Information Sciences Division

A. What criteria determines or affects project effectiveness in the sense of "making a difference"? How should we be looking at project effectiveness in an operational sense? What range of project activities fall within an operationally effective framework?

1. How does cost efficiency contribute to the project's effectiveness?

2. How does signing authority may affect project effectiveness? Has it affected the kind of projects that are being supported?

3. Can or should the Centre measure project effectiveness?

B. *What can be done to foster project effectiveness? What are the significant or antecedent events that contribute to project success? What do we need to be cognizant of in building effectiveness into our projects?*

1. How important do you think "vision" is with respect to project effectiveness?

2. How does the involvement of the regional offices affect project effectiveness? Can consultancy support or other different management innovations affect effectiveness?

C. *Based on the above, what are some of the policy or strategic implications for the Centre? Do you think that current centre policies may have an impact on project effectiveness as you would define it or attempt to foster it? At a corporate level, how can the Centre best support program staff in their endeavour to realize project effectiveness?*

1. Do you ever hear of an interesting project - something that makes you think "WOW! ...what potential this project would have!!!" - but then hold back due to some sort of Centre related constraint? What changes could be made to increase the Centre's capacity for supporting such projects?

2. Based on your experience, and in creating an ideal situation, how would you allocate your annual budget?

3. What are your thoughts about Fixed Price Contracts (FPCs) or self-administered projects?

4. What are your thoughts about the PSUs? Has enough time elapsed to get a sense of their effectiveness? If so, have they been effective and/or efficient? What could they be doing that they are not at present? Are there any tasks that they are currently addressing that are proving to be extraneous?

APPENDIX B - THE REQUEST, RESPONSES AND SAMPLE OF 76

THE REQUEST

"Could you please identify 2 or 3 projects (past or current) which, in your view, have had significant impact - projects you feel have "made a difference" with respect to bringing about an important, sustainable contribution to development in a country, region or sector."

THE RESPONSES BY DIVISION

Health

Pediatric Aids Phase I and II	86-0177; 91-1013
Health Sciences Education Rehabilitation	89-0125
Women and AIDs	92-8455
Applied Nutrition Research Phase I through III	86-0073; 88-0142; 90-0132
Microregional Planning: Community-Based Health Research and Decision Making	91-1034
Health Systems Research in Thatta District	89-0205
L'édification de la capacité de recherche des établissements Phase III	92-0220
International Commission on Health Research for Developing Countries	90-0099
HealthNet and Satellite Communication	91-1043 and 91-0030
Anti-conceptive Technology Phases I through V	75-0106; 79-0150; 82-0155; 85-0216; 89-0041
Worker's Participation	90-0080
Handpump Manufacture	84-0274
AIDs Dipstick	91-0158
Inexpensive Blood Screening for HIV	87-0154; 88-0215; 91-0158
Dengue Blot	

Environment and Natural Resources

Passive Cooling Phase II	85-0064
Soybean Seeder	83-0226
Agroforestry Seed Clearing House Phase I and II	89-0071; 90-0148
Soybean Utilization Phase I and II	86-0118; 89-0271
Microbial Control	88-1050-02; 88-1043-02
Plantes Aromatiques	90-1001-02; 92-1011
Farm Forestry	89-0206
Seaweed and Invertebrates	91-0143
Community Fishery Resource Management	91-0299

Participatory Action Research on Coastal Management	92-8009
Andean Farming Systems	84-0193
Latin American Animal Production Systems Network (RISPAL)	92-8753
INIBAP	84-0224; 85-0017;85-0258; 87-0201; 88-0264;89-0162; 89-0253; 92-0005
Huiles essentielles	87-1025; 91-1010
Wood Adhesives	90-1019
De-hulling project	84-0116; 90-0256
Seismic Microzoning	88-1061
Essences végétables	89-1002
Brique cuite	89-1007
Agroforestry Phase I	76-0130
ICRAF Phase I	76-0136
Agroindustry Project	90-0112; 92-0025
Tree Crop Processing	89-0139
Cassava Processing	86-????; 89-0016; 91-0236
Split Lake Water Quality Testing	
Tea Drying Project	88-1022

Social Sciences

CODESRIA Phase VI	92-8150
Consortium Graduate School (with CAID)	91-0055
MIMAP	90-0354; 92-8020
African Economic Research Consortium Phase II	91-0035
Macroeconomic Behaviour	92-0402
Displaced Populations in Lebanon Phase I and II	86-1006
West African Research Network on Adolescent Fertility	85-0168; 86-0327; 86-0325; 86-0326; 86-0335; 87-0160; 87-0159; 87-0150; 87-0176
Industrial Strategy (S. Africa)	91-0036
Black Urbanization, Class Differentiation and Political Conflict	90-0087
Economic Policy Research for a Post Apartheid South Africa	92-0900
CIRES	85-0038
Réseau sur les Politiques Industrielles Phase I	
Yam Marketing Project	82-0153
SPARC	87-0337
PIIE	80-0038;81-0230; 82-0050; 82-0133; 83-0043; 85-0141; 88-0218
CIDE	80-0153; 82-0067; 86-0024; 89-0245
FLASCO	80-0152; 82-0049; 86-0075; 88-0198
Cooperative Educational Research	84-1004
Teaching and Learning Mathematics Phase I and II	85-1001; 86-1005
RRAG	76-0013; 81-0011; 85-0053; 87-0125; 87-0207; 89-0079

Information Science

Caribbean Technological Consultancy Service	88-1042
DEVINSA	89-0225; 92-0617
Poisons Information Service	85-0290
PADIS Series	79-0080; 81-0195;86-0175; 89-0193
CERC	88-0032
INADES	91-0190;88-0149; 84-0324
INEP	91-0171; 86-0087
Remote Sensing for Artisanal Fisheries in Chile	87-0167; 92-0610
Radar Remote Sensing Technology	91-1039
MINISIS	
CGNET	82-4266; 83-0166; 83-4117
African Environmental NGO Electronic Network Node	90-0141
ESANET	90-0068
Software Development for Sustainable Computer Networking in Africa	92-0603
Capacity-Building in Electronic Communications for Development in Africa	92-0616
REDATEM	84-0229; 87-0248;92-1152-01

Corporate Affairs and Initiatives

Camanchas Fogcatcher	86-1026, 90-0202
Computer Sensor Project with Gunasinham	85-1024; 88-1022; 88-0202
PACE	86-1029

THE SAMPLE OF 76

Project Numbers

84-0274	84-0193	85-0216	86-0160	86-0024	92-0090
89-0079	87-0167	83-0166	87-0159	89-0245	82-0153
85-0053	92-0160	90-0141	87-0150	80-0152	83-0226
86-0175	84-0224	90-0068	87-0176	82-0049	88-0142
81-0195	85-0258	91-1043	85-0064	86-0075	91-0171
79-0080	85-0017	92-0603	81-0230	76-0013	84-0324
89-0225	87-0201	84-0229	82-0050	86-0118	88-0149
92-8150	88-0264	87-0248	82-0133	90-0099	91-0190
90-1001	89-0162	86-1006	83-0043	90-0008	88-0032
89-0205	89-0253	85-0168	85-0141	76-0130	88-1050
91-0035	92-0005	86-0327	88-0218	76-0136	92-8009
92-0402	88-0202	86-0325	80-0153	91-0036	91-0299
		86-0326	82-0067	90-0087	90-0354

APPENDIX C - THE SAMPLE OF 15

Project	S1 83-0166	S2 84-0274	S3 90-0148	S4 87-0337	S5 91-0158	M1 90-0087	M2 88-1061	M3 92-0603	M4 91-0299	M5 91-1039	L1 79-0080	L2 91-0035	L3 91-0134	L4 86-1026	L5 88-1043
Year	83	84	90	87	91	90	88	92	91	91	79	91	91	86	88
Actual Length (mos)	46	25		47	9		30				24			38	54
Anticipated Length	10	18	36	36	9	36	30	12	12	24	24	36	36	24	36
Technical Report #	1	2	3	3	1	4	3	2		2	2	3	3	3	4
Financial Report #	1	2	3	4	1	4	3	2		2	2	3	3	3	4
Report Reminder #	1	2		1		3		1		1	1	3			
Financial Analysis #	2										2				2
Extension #	1	1		1										1	1
Supplement #													1	2	
Monitoring Visits #	3	1		1	1	1	2					1		6	1
Payment #	2	3	4	5	1	6	5	3	3	5	5	4	6	5	8
Multi-recipient							Y2			Y2				Y4	Y2
N.A. recipient	Y				Y		Y1			Y1				Y1	Y1
Multi-division										Y				Y	
Multi-donor			Y2				Y6				Y4	Y11			
Network	Y	Y									Y				
Cooperative							Y			Y				Y	Y
Phase or series	Y		Y		Y						Y	Y			Y
Total (closest K)	78	73	114	149	103	153	219	161	162	206	550	800	354	319	497
% RAP	74	58	95	91	100	100	76	100	75	100	91	100	100	50	72
% Local Contribution	84	60				168	28		18	64				26	43

APPENDIX D - CAP/RAP BREAKDOWN FOR 15 PROJECTS

SMALL PROJECTS

CAP	S1	S2	S3	S4	S5
Cap % of Total Budget	26	42	5	9	0
Cap Am	20215	30770	5340	13570	0
Capital Equipment		3400			
Conferences					
Consultants		5400			
Contingency	7000	6620		13570	
Publications		700			
Research Expenses		9050			
Salaries					
Support Services					
Training		5600			
Travel	13215		5340		

RAP	S1	S2	S3	S4	S5
RAP % of Total Budget	74	58	95	91	100
RAP Am		57785	108230	135720	103070
Capital Equipment		17555	6920	16410	4580
Conferences				17590	
Consultants				5940	
Contingency					
Publications		510		11860	
Research Expenses		6095	54850	16310	10300
Salaries		16390	26110	57230	73580
Support Services		1480	9210	10380	11860
Training			11140		
Travel					2750

MEDIUM PROJECTS

CAP	M1	M2	M3	M4	M5
Cap % of Total Budget	0	24	0	25	0
Cap Am	0	52000	0	40000	0
Capital Equipment		40000			
Conferences				30000	
Consultants		12000		10000	
Contingency					
Publications					
Research Expenses					
Salaries					
Support Services					
Training					
Travel					

RAP	M1	M2	M3	M4	M5
RAP % of Total Budget	100	76	100	75	100
RAP Am	153000	167250	160671	122560	206000
Capital Equipment	1870			2940	18810
Conferences					
Consultants			88465		11400
Contingency					
Publications	1910	6500	18900		7980
Research Expenses	19680	37400	8000	95220	67950
Salaries	112130	44500	17600	13040	36020
Support Services	17410	13000	21706		3420
Training		31270		11360	22230
Travel		34580	6000		38190

LARGE PROJECTS

CAP	L1	L2	L3	L4	L5
Cap % of Total Budget	9	0	0	*this is based on initial projections; does not include supplements	28
Cap Am	50000	0	0	145890	138200
Capital Equipment				79800	40000
Conferences					25000
Consultants					
Contingency	50000			21890	45200
Publications					3000
Research Expenses				14200	
Salaries					
Support Services					
Training					10000
Travel				30000	15000

RAP	L1	L2	L3	L4	L5
RAP % of Total Budget	91	100	100		72
RAP Am	500000	800000	354020	94710	358700
Capital Equipment		no breakdown of RAP	58760		
Conferences				6000	
Consultants	192465		8780		
Contingency					
Publications					
Research Expenses	87750		125530	67960	88000
Salaries			113120	11550	240840
Support Services	96233		21110		6860
Training	123552		26720		
Travel				9200	23000

APPENDIX E - COMMENTS

These comments arrived too late to be incorporated into the study but nonetheless are useful for discussion purposes.

To: Carole Laplante@CAI IAI@IDRC CRDI
Cc: Marielle Rowan@CAI IAI@IDRC CRDI
Terry Smutylo@CAI IAI@IDRC CRDI
Subject: Project Size Paper
Date: Wednesday, December 15, 1993 8:13:51 EST

I just finished reading the document. My general reaction is that it is well prepared and documented. More complicated, multi-disciplinary and multi-divisional projects are more expensive and have a greater impact if the right conditions are present (money is not the only criterion but it is a criterion along with needs definition, utilization strategy, etc.). If we really want to fully explore value for the money I'd suggest the following be done in addition to the analysis presented in the report:

1) How does it look if we consider Purchasing Power Parity (IMF's comparative method for how far a dollar goes)? From experience, a dollar in China or in Uganda will go much further than in Canada, in Zimbabwe or in Malawi. Also, what is the impact of high local contributions where PPP leverage is high; a $ 250,000 project in China is equivalent to a much larger project elsewhere because of the low salary scale and relatively high personnel productivity, all of which is often entirely contributed.

2) What is the average value of project that IDRC uses for its corporate publicity? Refer to the recent IDRC Reports issue on Collaborative projects and to the booklet 101 Technologies. How many "small" projects made it to those lists? I am assuming, perhaps wrongly, that these lists have been screened for maximum impact and most success.

3) The cost of administering projects is grossly underestimated.

4) In my experience, and indeed that of most former ... staff, collaborative projects are not only larger but they tend to self-manage; they require less monitoring during implementation but take longer to set-up and approve. Only this second part (set-up) was identified in the paper. If we truly apply all the evaluation criteria to proposals, I personally find it very difficult to support a "small" project because it usually fails the test on a least one important criterion (like utilization strategy or needs definition, etc.).

I trust these will be helpful.

Regards.